



STATUS OF E-LEARNING AT UNIVERSITY LEVEL IN BANGLADESH: OPPORTUNITIES AND LIMITATIONS

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ABSTRACT

E-Learning has triggered many changes in the higher education system due to technological developments, as it plays a part in the current teaching-learning process. Even with the promise of digitalization, e-learning in the education sector has not improved much for the lack of sufficient technological development in a country like Bangladesh. This study considers different aspects of e-learning, this research measured current status of e-learning through demographics factors, e-learning experience and knowledge towards e-learning.

Methods

This research follows descriptive analysis where EBPO survey questioner is used to collect quantitative data from 200 university students of Bangladesh. The quantitative data are analyzed using descriptive analysis, Cronbach's alpha, co-relation, Anova and Chi-square analysis.

Results

The quantitative results revealed that there are significant and positive relationships between e-learning and demographic factors such as degree enrolled in, employment status, geographical area, e-learning experience and knowledge towards e-learning with e-learning status, however with different strengths.

Conclusion

This study shows that e-learning knowledge is one the biggest challenges while trying to embrace e-learning. Additionally, e-learning is constantly being a major concern in tertiary level education with geographic challenges, IT support, student acceptance, and course delivery individual. The overall results of the study reveal that on average, 62.5% of the respondents are moderately satisfied with e-learning and 81% of them have direct link to e-learning. Therefore, a number of policy proposals have been established to help the factors, including demographic characteristics, age, geographic location, grasp of e-learning platforms, and satisfaction with e-learning experiences.

KEYWORDS: "E-Learning", "Current Status", "Demographic", "Knowledge", "Experience"

1. INTRODUCTION

E-Learning has triggered many changes in the higher education system due to technological developments, as it plays a part in the current teaching-learning process. According to Farid, in the context of virtual learning, the introduction of ICT (Information and Communication Technology) into education has provided new horizons. E-learning is a useful teaching, learning, and training tool for users, especially in remote areas (Farid, et al., 2018). Accessibility to the internet has made e-learning a preferred method of learning at the tertiary level.

E-learning is promoted as a teaching tool by many universities around the world and it is highly embraced by students. Topnotch universities like Harvard, Yale have been offering online courses so that students around the globe can have access to quality education as long as they have the internet.

According to the literature, E-learning for tertiary level education in least developed countries: Implementation obstacles and way outs for Bangladesh, implementation of e-learning in tertiary level education in LDCs (Least Developed Countries) face many hurdles due to low technological development (Mahmud, 2010). Even with the promise of digitalization, e-learning in the education sector has not improved much for the lack of development. Although e-learning has been introduced at the university level in Bangladesh, it has not become a part of formal education.

This research assesses the current status of e-learning at the university level in Bangladesh, as well as the opportunities and constraints that e-learning entails. Considering various aspects of e-learning, this study measures e-learning through demographic factors, e-learning experience, and knowledge of e-learning. Furthermore, this study analyzed the current status

in order to determine student satisfaction with their experience, the influence of demographic factors, and the efficiency of knowledge towards e-learning.

2. METHODOLOGY

This research is especially a quantitative and descriptive research. This research follows the quantitative method of data collection by handing out survey questionnaires and based upon the responses of the

university students in Bangladesh. The questionnaire has been filled with a close-ended type of questions to get more specific and quicker responses from respondents to answer the question asked. The sources of data of this research is primary data the only source of data that is used to conduct this research. A structured and closed form online survey questionnaire has been developed and handed-out to the respondents, who are the university students of Bangladesh. This research solely focuses only on university students. Individual students from the university have been chosen for the survey. The survey was conducted to know the demographic factors, their knowledge towards e-learning and e-learning experience of students as primary data for this research.

The population of the research work were the number of students who are studying in different universities of Bangladesh. For more accuracy of the research, data were collected from private and public universities. The total number of samples were 200 private and public university students.

For this study the probability-sampling method, where simple random sampling is applied. Random sampling is chosen for this research because each sample has an equal chance of being chosen in this technique. There is a neutral illustration of the total population. Thus, it is convenient to collect information following the random sampling method, as the survey was conducted online. It is a voluntary survey as no compensation was given. Respondents were selected randomly concerning gender, education level and type of university. A Google form link was shared through mail and social media, to access the online survey. The respondents were asked to rate their experience and practice by full filling the EBPQ survey (Upton & Upton, 2006). The survey questions has options from one (Poor) to seven (Best), which is measured on a scale name seven point Likert-type scale. The survey provides a clear idea to measure the independent variables.

A pilot test is undertaken to establish the instrument's validity and reliability, where approximately 20 samples are tested. The validity of the instrument is examined through external and content validity. The external validity is aimed to ensure the accurate representation of a population, whereas content validity is conducted to measure the accuracy and appropriateness of the content of the instrument.

For the sake of fulfilling the desired objective, the following variables such as demographic factors, e-learning experience of students and knowledge towards e-learning, are thought to be more influential in assessing the current status of online

learning in the university level in Bangladesh. The data is gathered following quantitative method and considering the dependent factors of the questionnaire, which help to collect relevant data required for this particular research.

First and foremost, the quantitative data are collected through structured closed-ended questionnaires through online survey, where the survey link is circulated to the respondents in sample areas. The questionnaires survey are consisted of 3 important parts as follows: -

No.	Parts	Indications
1.	Part A	Demographics Information
2.	Part B	Knowledge towards E-Learning
3.	Part C	E-Learning Experience

Table 1: Instruments Parts/ Sections

The questionnaires link is publicized directly to targeted respondents through Google form platform, as this method is time saving, efficient to get responses from respondents as well as for the health precaution purpose to avoid any gathering events due to the COVID-19 outbreak, the feedback of the survey is obtained for period of one month.

Fundamentally, the collected quantitative data are analyzed through several techniques. To analyze demographic factors and to calculate Cronbach's alpha, SPSS 17.0 in Windows version 2009 is used. Additionally, Cronbach's alpha is followed to check the core regularity dependability of the total EBPQ and three subscales. Alpha's if item rejected are also reviewed to find items that may not be suitable inside each subscale. An alpha level of 0.05 is used to interpret each statistical study.

The findings of the questionnaire are explained through descriptive analysis illustrated in tables and figures. The correlation investigation are followed to explain the association between self-determining variables e-learning experience, demographic factors and knowledge towards e-learning and dependent variable current status of e-learning. Meanwhile, Chi-square analysis is conducted to test whether the overall regression model is good fit to the data.

3. RESULTS

The majority of the respondents among the universities of Bangladesh are above or equal to age 25 at 62.5%. Based on the findings, we can conclude that most of the respondents for this study are among those aged above 25 years. The female respondents are much higher at 66.5% than male respondents which are at 33.5%. During the circulation of the survey through google doc platform, female respondents showed additional interest to participate in study.

In addition, most of the respondents are enrolled in Master's Degree, registering 54% from the total respondents. Meanwhile, there are 55% who are unemployed, followed by employed full-time which is recorded at 27%. The next analysis revealed that majority of the students come from urban area at 74%. Typically, as the number of direct e-learning experience and

moderate learning experience have the highest bars as shown in Figure 1.

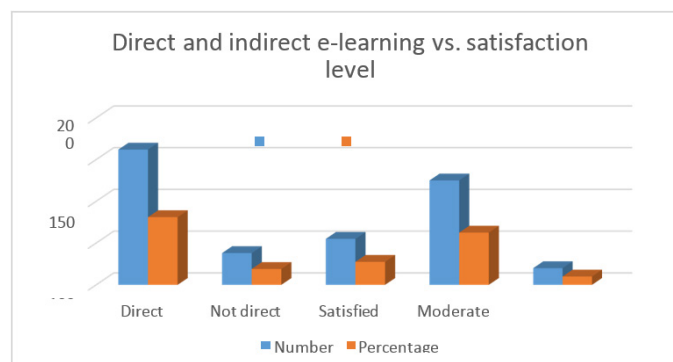


Figure 1: Direct and indirect e-learning vs. satisfaction level

Demographic factors of the respondents can be summarized in table 4.1. Overall, participants are Female (n = 133), from urban area, are unemployed (n=110), hold a Master's degree (n = 108), whose mean age of 25.88 years old (SD = 4.11). On average, 62.5% are moderately satisfied with e learning and 81% of the sample have direct e-learning experience.

	Mean	SD
E-learning Experience		
"My workload is too great for me to keep up to date with all the new information on e-learning"	4.71	1.38
"I resent having to move towards e-learning"	4.74	1.57
"E-learning is a waste of time"	3.41	1.96
"I want to stick to offline methods rather than changing to e-learning"	4.34	1.94
Knowledge of E-learning		
"Research skills regarding e-learning"	4.74	1.61
"Information technology skills regarding e-learning"	5.06	1.62
"Monitoring and reviewing of practice skills of e-learning"	4.64	1.51
"Converting your information needs into ideas about e-learning"	4.88	1.29
"Awareness of major information types and sources regarding e-learning"	4.77	1.49
"Ability to identify gaps in knowledge regarding e-learning"	4.57	1.56
"Knowledge of how to retrieve evidence regarding e-learning"	4.63	1.38
"Ability to analyze critically evidence against set standards of e-learning"	4.73	1.38
"Ability to determine how valid (close to the truth) e-learning is"	4.81	1.41

"Ability to determine how useful the materials regarding e-learning is"	4.8	1.49
"Ability to apply information regarding e-learning"	5.02	1.36
"Sharing of ideas and information with friends regarding e-learning"	4.96	1.56
"Dissemination of new ideas regarding e-learning"	4.73	1.47
"Ability to review your own practice of e-learning"	4.69	1.39
"How often have you formulated a clearly answerable question as the beginning of the process towards learning use of E-learning"?	4.72	1.36
"How often have you tracked down the relevant evidence once you have formulated the understanding to learn E-learning"?	4.68	1.4
"How often have you critically appraised, against set criteria, any training you have had from a teacher"?	4.31	1.54
"How often have you integrated the evidence of E-learning you have found with your expertise"?	4.35	1.48
"How often have you evaluated the outcomes of your practice"?	4.53	1.44
"How often have you shared this learnt information with fellow students"?	4.61	1.68

Table 2: EBPQ Item Statistics Including Assumption Checking (N = 200)

Internal Stability Reliability the information of EBP subscale for online learning has a Cronbach's alpha of .95, while the application of EBP subscale in e-learning has a Cronbach's alpha of .87, both considerably above the suggested a threshold of .70 is used for well core consistency and dependability (De Vaus, 2002). Although the general scale had a Cronbach's alpha of .95, whereas the approaches toward EBP subscale for online education had .63 of Cronbach's alpha. As the students' involvements with the EBP subscale for online learning fell under the suggested alpha of .70, and the alphas of element erased alphas were investigated. Element 1 would have an alpha of .69, if it were removed, indicating that it does not acceptable with the other three elements on this subscale.

The response of the sample shows that they do not think fully that e-learning is a waste of time (Mean=3.41; SD=1.96), though moderately they want to stick to offline learning. If possible (Mean=4.34; SD=1.94). The study respondents do have quite a high knowledge regarding e-learning (Mean=5.06; SD=1.62). With the lowest mean score, it seems, the students face challenges in appraisal against a set criterion, knowledge gained from the teacher (Mean=4.31; SD=1.2).

Correlation analysis was conducted to examine the relationship and measure the strength between two variables (Pallant, 2005).

		“I resent having to move towards e-learning”	“Research skills regarding e-learning”	“Information technology skills regarding e-learning”	“Monitoring and reviewing of practice skills of e-learning”	“Converting your information needs into ideas about e-learning”	“Awareness of major information types and sources regarding e-learning”	“Ability to identify gaps in knowledge regarding e-learning”	“Knowledge of how to retrieve evidence regarding e-learning”	“Ability to analyze critically evidence against set standards of e-learning”	Ability to determine how valid (close to the truth) e-learning is
Age	Pearson Correlation	.107	.080	.124	.103	.136	.162*	.169*	.268**	.249**	.173*
	Sig. (2-tailed)	.130	.258	.079	.147	.054	.022	.017	.000	.000	.014
	Sum of Squares and Cross-products	137.640	105.640	165.440	127.240	144.000	196.480	215.680	301.120	281.520	199.440
	Covariance	.692	.531	.831	.639	.724	.987	1.084	1.513	1.415	1.002
	N	200	200	200	200	200	200	200	200	200	200
Employed Status	Pearson Correlation	.268**	.233**	.220**	.241**	.198**	.208**	.246**	.327**	.265**	.298**
	Sig. (2-tailed)	.000	.001	.002	.001	.005	.003	.000	.000	.000	.000
	Sum of Squares and Cross-products	72.160	64.160	61.360	62.560	44.000	53.120	65.920	77.280	62.880	72.360
	Covariance	.363	.322	.308	.314	.221	.267	.331	.388	.316	.364
	N	200	200	200	200	200	200	200	200	200	200
E-Learning Experience	Pearson Correlation	.277**	.190**	.270**	.280**	.181*	.363**	.366**	.343**	.146*	.260**
	Sig. (2-tailed)	.000	.007	.000	.000	.011	.000	.000	.000	.040	.000
	Sum of Squares and Cross-products	33.930	23.930	34.280	33.130	18.250	42.260	44.660	36.940	15.740	28.780
	Covariance	.171	.120	.172	.166	.092	.212	.224	.186	.079	.145
	N	200	200	200	200	200	200	200	200	200	200
Satisfaction With E-Learning	Pearson Correlation	.214**	.252**	.362**	.287**	.307**	.276**	.313**	.298**	.287**	.276**
	Sig. (2-tailed)	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Sum of Squares and Cross-products	39.275	47.275	68.900	50.775	46.375	48.050	57.050	47.950	46.450	45.650
	Covariance	.197	.238	.346	.255	.233	.241	.287	.241	.233	.229
	N	200	200	200	200	200	200	200	200	200	200

Table: 3 Chi-Square test between different Variables

		“Ability to determine how useful the materials regarding e-learning is”	“Ability to apply information regarding e-learning”	“Sharing of ideas and information with friends regarding e-learning”	“Dissemination of new ideas regarding e-learning”	“Ability to review your own practice of e-learning”	“How often have you formulated a clearly answerable question as the beginning of the process towards learning use of E-learning?”	“How often have you tracked down the relevant evidence once you have formulated the understanding to learn E-learning?”	“How often have you critically appraised, against set criteria, any training you have had from a teacher?”	“How often have you integrated the evidence of E-learning you have found with your expertise?”	“How often have you evaluated the outcomes of your practice?”	“How often have you shared this learnt information with fellow students?”
Age	Pearson Correlation	.158*	.357**	.073	.103	.126	.164*	.179*	.221**	.312**	.287**	.086
	Sig. (2-tailed)	.026	.000	.305	.145	.076	.020	.011	.002	.000	.000	.225
	Sum of Squares and Cross-products	192.200	397.480	92.920	124.520	142.560	183.280	205.200	278.440	378.280	338.720	118.640
	Covariance	.966	1.997	.467	.626	.716	.921	1.031	1.399	1.901	1.702	.596
	N	200	200	200	200	200	200	200	200	200	200	200
Gender	Pearson Correlation	-.210**	-.122	-.212**	-.008	-.105	-.130	-.067	-.147*	-.207**	-.210**	-.140*
	Sig. (2-tailed)	.003	.084	.003	.912	.137	.066	.349	.038	.003	.003	.049
	Sum of Squares and Cross-products	-29.400	-15.660	-31.015	-1.090	-13.770	-16.760	-8.775	-21.230	-28.885	-28.490	-22.130
	Covariance	-.148	-.079	-.156	-.005	-.069	-.084	-.044	-.107	-.145	-.143	-.111
	N	200	200	200	200	200	200	200	200	200	200	200
Employed Status	Pearson Correlation	.296**	.399**	.245**	.177*	.246**	.232**	.294**	.225**	.339**	.435**	.319**
	Sig. (2-tailed)	.000	.000	.000	.012	.000	.001	.000	.001	.000	.000	.000
	Sum of Squares and Cross-products	75.800	93.120	65.480	44.880	58.640	54.320	70.800	59.360	86.320	107.680	92.160
	Covariance	.381	.468	.329	.226	.295	.273	.356	.298	.434	.541	.463
	N	200	200	200	200	200	200	200	200	200	200	200
E-Learning Experience	Pearson Correlation	.201**	.242**	.199**	.197**	.306**	.331**	.262**	.081	.225**	.170*	.176*
	Sig. (2-tailed)	.004	.001	.005	.005	.000	.000	.000	.253	.001	.016	.013
	Sum of Squares and Cross-products	23.400	25.760	24.290	22.740	33.220	35.360	28.650	9.780	26.110	19.140	23.180

	Covariance	.118	.129	.122	.114	.167	.178	.144	.049	.131	.096	.116
	N	200	200	200	200	200	200	200	200	200	200	200
Satisfaction With E-Learning	Pearson Correlation	.224**	.272**	.168*	.171*	.227**	.237**	.191**	.106	.282**	.263**	.150*
	Sig. (2-tailed)	.001	.000	.018	.016	.001	.001	.007	.134	.000	.000	.033
	Sum of Squares and Cross-products	39.000	43.300	30.575	29.450	36.850	37.800	31.375	19.150	48.925	44.450	29.650
	Covariance	.196	.218	.154	.148	.185	.190	.158	.096	.246	.223	.149
	N	200	200	200	200	200	200	200	200	200	200	200

Knowledge and ability to analyze regarding e-learning has weak positive association with age. Employment status has weak positive correlation with most aspects of e-learning. Students experience and satisfaction regarding e-learning is weak but positively correlated with all aspects of e-learning. Thus it can be stated by observing the highlighted points in the table that the result is significant as $p < 0.001$, $N = 200$. Therefore, as the index scores of the independent variables increase, thus the possibility of having better e-learning experience is also increasing.

4. OVERALL FINDINGS AND CONCLUSION

First and foremost, the quantitative results revealed that there are significant and positive relationships between e-learning and demographic factors degree enrolled in, employment status, geographical area, e-learning experience and knowledge towards e-learning with e-learning status, however with different strengths. These indicated that the higher e-learning index score are associated with higher index score of independent variables. For example, those who have higher index score of attitude, knowledge and experience of e-learning is referring to those who have higher interaction with e-learning.

A 2006 study has highlighted the trend of e-learning increasing in Bangladesh about 15 years ago. Despite different constraints, the country started embracing the technology for various reasons. In Bangladesh, e-learning was familiarized first in 1960s as a radio transmission followed by an experimental program in 1980s. In 1992 substantial development has been made following the foundation of the Bangladesh Open University (BOU), as the country's leading and solitary national remote learning university. BOU's admission has reached to about 400 thousand students in less than a decade. BOU is providing a diversity of official and non-official educational curriculums ranging from diploma to master's degrees through television and radio shows, face-to-face seminars and audio tapes. In the late 1990s, e-learning became popular in Bangladesh after the quick spread of computers and the internet (Islam & Selim, 2006). The current COVID-19 situation when the study has been conducted, shows that students are embracing technology as this is the best way to maintain social distancing while continuing studies in a safe manner. There is a link with the

comparable mentioned study with the current study showing that e-learning has been among students since long, but the current situation is encouraging them to apply it even further.

E-learning Knowledge regarding information technology has one of the highest mean scores in the current study. E-learning knowledge is one the biggest challenges while trying to embrace e-learning. When compared with a study from 2009 (Mahumd & Gope, 2009) which stated a successful operation of e-learning is contingent on the distribution of information, progressions, and training through electronic platforms such as intranets, internet, extranets, audio/video recordings, wireless, and collaborative television. The number is much higher now showing that if internet is available, then students will be willing to lean to e-learning in current situation.

Many articles show that females always top board results in Bangladesh (Mohiuddin, 2020), a support for this study showing the number of female respondents. Most of the respondents are from urban area where in internet facilities are better, the information being supported from the article in The Daily Star (UNB, 2020). The does show that in line with the current COVID-19 situation, only 10% of the respondents are dissatisfied with e-learning.

5. REFERENCES

1. De Vaus, D. (2002). Analyzing social science data: 50 key problems in data analysis. SAGE. Elango.
2. Farid, S., Ahmad, R., Alam, M., Akbar, A., & Chang, V. (2018). A sustainable quality assessment model for the information delivery in E-learning systems. Information Discovery and Delivery.
3. Islam, M. T., & Selim, A. S. M. (2006). Current status and prospects for e-learning in the promotion of distance education in Bangladesh. Turkish Online Journal of Distance Education, 7(1).
4. Mohiuddin Alamgir (2020, Jan 01). 'Girls do it again' The Daily Star. <https://www.thedailystar.net/frontpage/psc-and-jsc-result-2019-girls-do-it-again-1847914> Mahmud, K., & Gope, K. (2009, December). Challenges of implementing e-learning for higher education in least developed countries: a case study on Bangladesh. In 2009 international conference on information and multimedia technology (pp. 155-159). IEEE.
5. Mahmud, K. (2010). E-learning for tertiary level education in least developed countries: Implementation obstacles and way outs for Bangladesh. International Journal of Computer Theory

and Engineering, 2(2), 150-155.

6. Pallant, J. F. (2010). SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS.
7. Upton, D., & Upton, P. (2006). Development of an evidence-based practice questionnaire for nurses. Journal of Advanced Nursing, 53(4), 454-458.